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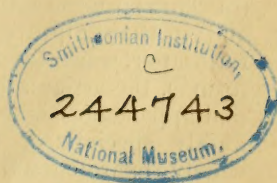
Smith.

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Faxon, William

Crayfishes. (Binder's title).

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FAXON, WALTER

PRELIMINARY CATALOGUE OF THE CRAYFISHES OF
KANSAS.

Bull. Washburn College Lab.
Nat. Hist. 1885, 1 p. 140

Preliminary Catalogue of the Crayfishes of Kansas.

By WALTER FAXON, A. B., Sc. D.

1. *Cambarus simulans* Faxon.—Proc. Amer. Acad. Arts and Sci., XX, 112, 1884.—Mem. Mus. Comp. Zool., Vol. X., No. 4, p. 48, Pl. I., fig. 12; Pl. VIII., figs. 3, 3', 3a, 3a', 1885.

Tributary of Medicine River, Barber Co. Messrs. Williams and Cragin. Fort Hays (Coll. Mus. Comp. Zool.).

2. *Cambarus gracilis* Bundy.—Bull. Ill. Mus. Nat. Hist., No. I., p. 5, 1876.—Trans. Wis. Acad. Sci., V. 182, 1882.—Geol. Wis., Surv. of 1873-79, I. 403, 1883. Faxon, Mem. Mus. Comp. Zool., Vol. X., No. 4, p. 56, Pl. VIII., figs. 4, 4', 4'', 1885.

Lafayette Co. W. S. Newlon.

3. *Cambarus Diogenes* Girard.—Proc. Acad. Nat. Sci. Phila., VI. 88, 1852. *Cambarus obesus* Hagen, Ill. Cat. Mus. Comp. Zool., No. III., p. 81, Pl. I., figs. 39-42; Pl. III., fig. 163; Pl. IX., 1870.

Leavenworth (Coll. Mus. Comp. Zool.).

4. *Cambarus immunis* Hagen.—Ill. Cat. Mus. Comp. Zool., No. III., p. 71, figs. 101, 102; Pl. III., fig. 160; Pl. VIII., fig. 6, 1870. *Cambarus signifer* Herrick, Tenth Ann. Rep. Geol. Nat. Hist. Surv. Minn. for 1881, p. 253, 1882.

Leavenworth (Coll. Acad. Nat. Sci. Phila.). Ellis (Coll. C. H. Gilbert).

4a. *Cambarus immunis* Hagen, var. *spinirostris* Faxon.—Proc. Amer. Acad. Arts and Sci., XX. 146, 1884.—Mem. Mus. Comp. Zool., Vol. X., No. 4, p. 100, Pl. I., fig. 5, 1885.

Ward's Creek, Shawnee Co.; F. W. Cragin and J. B. Fields. When I described this variety in 1884, I had not seen the first form of the male, which is included among the specimens collected by Messrs. Cragin and Fields. The lateral spines of the rostrum are distinct as in the second-form male and in the female; the setæ on the second pair of legs are well developed; the first abdominal appendages are shaped exactly as in the first-form male of the typical *C. immunis*.

5. *Cambarus Nais*, sp. nov.—Male, form I.—Rostrum long, concave above, lateral margins converging from the base to the lateral spines, which are small but distinct; acumen of moderate length, acute. Post-orbital ridges provided with a minute anterior spine. Carapace smooth and lightly punctate above, granulate on the sides; lateral spine small, acute; cervical groove sinuate, ending anteriorly in a small branchiostegian spine; sub-orbital angle not prominent; areola very narrow, punctate, the margins parallel from the anterior to the posterior triangular fields; the length of the areola is equal to one-half the distance from the tip of the rostrum to the cervical groove. Abdomen as long as the cephalothorax. Proximal segment of the telson bispinose on each side, distal segment shorter than the proximal. Antennæ longer than the body; laminae a little longer

than the rostrum, broad, broadest at the middle, subtruncate at the end, with an external apical spine. Third maxillipeds densely setose within and below. Anterior process of the epistoma with very convex sides. Chela broad, flattened above, punctate, external border marginate; inner margin of the hand short, with a double row of dentiform tubercles; fingers long, movable one tuberculate on the external border, toothed on the internal border; external finger flat above, internal margin toothed, and bearded at the base. Carpus armed with a row of small tubercles on the upper side, with a strong and acute internal median spine and a small one at the base; on the lower side the carpus is provided with a prominent median spine and an external one at the point of articulation with the chela; in some specimens there is a small spine on the lower face of the carpus, between the median spine and the large one on the internal margin. Third pair of legs armed with a hooked tubercle on the inner margin of the third segment. First pair of abdominal appendages of moderate length, twisted, deeply bifid, very broad in the middle; rami slender, styliform, strongly recurved, the inner one a little shorter and more curved than the outer one, the outer one corneous. Length from tip of the rostrum to the end of the telson, 61 mm. Length of antennae, 67 mm.

The second form of the male differs from the first form in having smaller chelae, the tubercles on the third pair of legs less developed, the first abdominal appendages less deeply cleft, the rami stouter, blunter, and not corneous.

In the female the chela is similar to that of the second form of the male. The sternum between the fourth pair of legs is smooth, the annulus ventralis triangular with a median longitudinal fissure.

Labette Co.; W. S. Newlon. 5 males form I., 5 males form II., 7 females.

This species much resembles *C. virilis*, especially the form called *variety A* by Dr. Hagen. It differs in the shape of the first abdominal appendages of the male. In *C. Nais* the rami of these appendages are shorter and more strongly curved than in *C. virilis*, but not so much recurved as in *C. immunis*. The areola is narrower than in *C. virilis*. The first abdominal appendages are very like those of *C. Palmeri*, as far as can be seen by a comparison of the second-form males alone; but the areola is not obliterated in any part of its course in *C. Nais* and the rostrum is more tapering than in *C. Palmeri*.

6. *Cambarus virilis* Hagen.—Ill. Cat. Mus. Comp. Zool., No. III, p. 63, Pl. I. figs. 23–28, Pl. II. figs. 128–132, Pl. III. fig. 155, Pl. VIII., 1870. *Cambarus debilis* Bundy, Bull. Ill. Mus. Nat. Hist. No. I. p. 24, 1876.—Trans. Wis. Acad. Sci. V. 181, 1882.—Geol. Wis. Surv. 1873–79, I. 403, 1883. *Cambarus couesi* Streets, Bull. U. S. Geol. Geogr. Surv. Terr., III. 803, 1877.

Tributary of Kansas River, Shawnee Co. F. W. Cragin. Ward's Creek, Shawnee Co. J. B. Fields and F. W. Cragin. Wabaunsee Co. J. B. Fields. Garden City, F. W. Cragin. Leavenworth (Coll. Acad. Nat. Sci. Phila.) Manhattan, (Coll. Acad. Nat. Sci. Phila.) Republican River, northwest of Fort Riley (Coll. Acad. Nat. Sci. Phila.) Ellis, (Coll. Peabody Acad. Sci. Salem.)*

7. *Cambarus neglectus* sp. nov.—Male, form I.—Rostrum broad, sub-excavated, with a median longitudinal carina; sides nearly parallel from the base to the lateral spines, which are very small, brown, and horny; acumen of moderate length. Post-orbital ridges with very small anterior spines, or none. Carapace oval, flattened above, punctate, lightly granulate on the sides, lateral spine obsolete, antero-lateral border angulated below the eye; areola of moderate width, dilated anteriorly and posteriorly. Abdomen equal to the cephalothorax in length; basal segment of the telson two-spined on each side. Antennæ shorter than the body; lamina as long as the rostrum, broadest toward the distal end, apical spine of moderate length. Anterior process of the epistoma long, subtruncate. Third pair of maxillipeds hairy within, naked below. Chelipeds short; chela broad, punctate above and below, inner margin furnished with a double row of depressed squamous tubercles; fingers of moderate length, more or less gaping at the base, with a row of round tubercles on their opposed edges, outer margin of the movable finger furnished with low tubercles. Carpus broad, punctate above, with a strong median spine on the internal border and a small one near the base; there are no spines below. Superior border of meros armed with two obliquely-placed ante-apical spines; the lower face of the meros presents two rows of spines. Third segment of the third pair of legs hooped. First pair of abdominal appendages nearly straight, terminating in two long, slender, pointed, horny styles; the anterior style (outer part of the appendage) a little longer than the posterior and slightly recurved.

In the second form of the male the first abdominal appendages are cleft but a short distance. The terminal part of the appendages is stouter and not corneous, and the tips of the rami are rather blunt.

In the female the annulus ventralis presents a deep transverse fossa, bounded on all sides by a prominent wall, which is bituberculate in front.

Length of a male, form II., 74 mm. Length of areola 13 mm. Breadth of areola in the middle, 3 mm.

Mill Creek, Wabaunsee Co.; F. W. Cragin and J. B. Fields. 2 males f. I., 1 female.

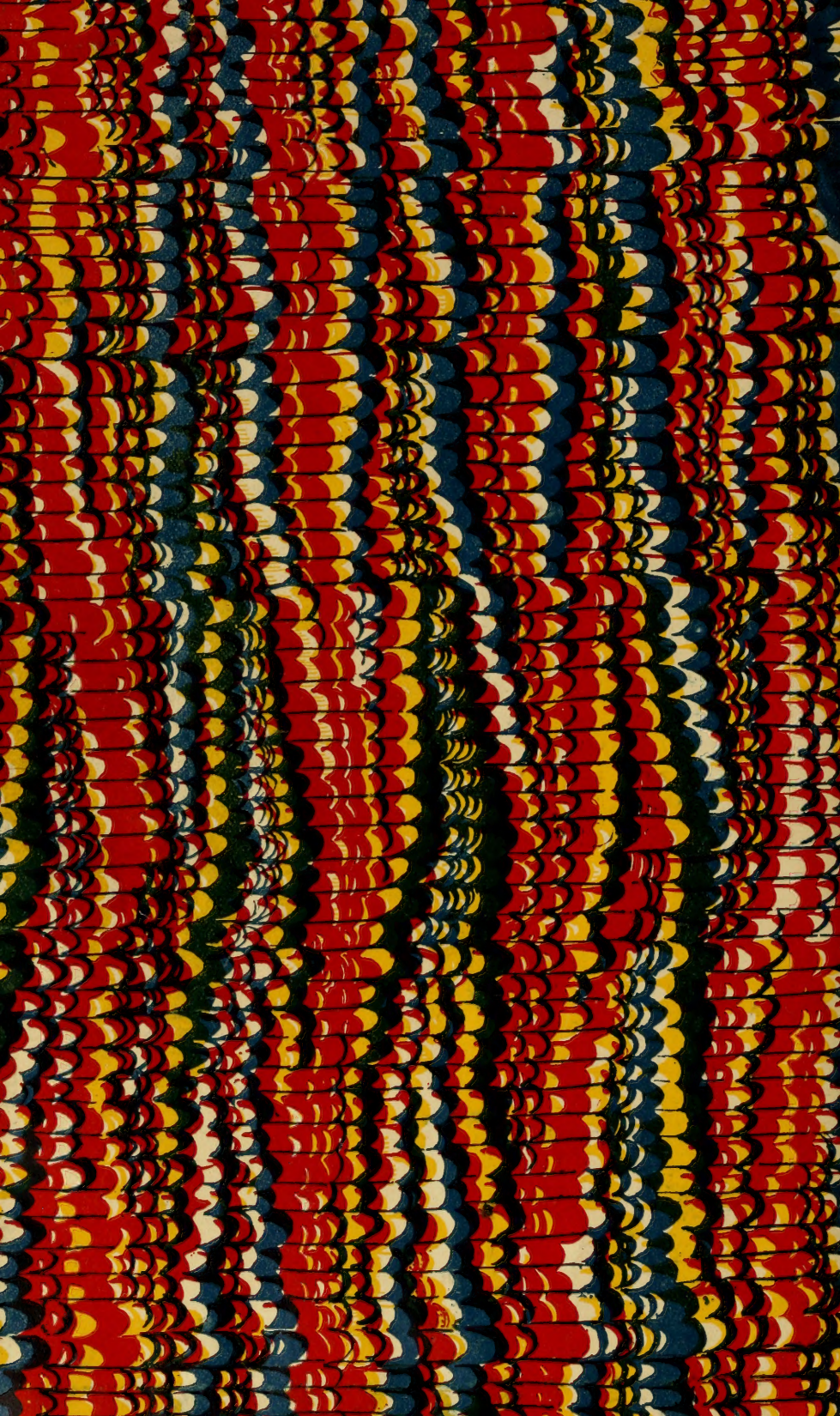
This is the species mentioned, but not named, in my Revision of the Astacidae, page 94, under *C. propinquus*. When that work was written I had seen but three specimens of this crayfish, all of them second-form males, without locality. I then forbore to present a complete description of it. The collection of Messrs Cragin and Fields supplies the first-form male and the female. In general appearance this species nearly resembles *C. propinquus*, but the sexual appendages are quite different, resembling those of *C. rusticus*, var. *placidus*.

The tips of the fingers are orange-colored, preceded by a dark-colored annular band.

*The Peabody Academy specimens from Ellis were collected some years ago by Dr. L. Watson.

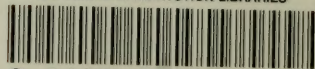
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Letter





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